SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER	2. GOVT ACCESSION NO. AD-A124161
3. RECIPIENT'S CATALOG NUMBER	
4. TITLE (and Subtitle) SURVEY OF INJURY VISITS FOR COMBAT TROOPS	5. TYPE OF REPORT & PERIOD COVERED INTERIM June 1980 - May 1981
	6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) CPT Linda K. Jellen, MSW Joseph M. Rothberg, Ph.D.	8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Division of Neuropsychiatry Department of Military Psychiatry WRAIR, WRAMC, Washington, DC 20012	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 62771A 3E 162771A804 00 047
11. CONTROLLING OFFICE NAME AND ADDRESS US Army Medical Research and Development Command Ft Detrick, MD 21701	12. REPORT DATE 23 January 1983 13. NUMBER OF PAGES 12
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) Walter Reed Army Institute of Research Washington, DC 20012	15. SECURITY CLASS. (of this report) UNCLASSIFIED 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approve for public release. Distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

DTIC ELECTE FEB 8 1983 S D A

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Health	Stress (medical)	Airborne
Deployment	Medical records	Symptoms
Outpatient	Medical services	Demography
Sickcall	Medical statistics	
Injuries	Registry	

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Analysis of outpatient sickcall visits for airborne combat arms soldiers as part of the Health Consequences of Deployment study of short-term stress indicated that almost half of the visits are for injuries or related muscular-skeletal complaints. This report details the causes, treatment and dispositions of the injuries and related muscular-skeletal complaints reported during a one week prospective review of cases.

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

TECHNICAL REPORT #4

SURVEY OF INJURY VISITS FOR COMBAT TROOPS

CPT Linda K. Jellen, MSW

Joseph M. Rothberg, Ph.D

Department of Military Psychiatry

Division of Neuropsychiatry

Walter Reed Army Institute of Research

Washington D.C. 20012

23 January 1983

INTRODUCTION

Analysis of outpatient sick call visits for combat arms (airborne) soldiers over a one year period of time in the Health Consequences of Deployment study (see item 1 in Appendix A) indicated that almost half of the visits were for injuries or related muscular-skeletal complaints. Because of the extent and potentially chronic nature of these medical problems, we conducted a one week survey to provide more details about the injuries and muscular-skeletal related complaints. The intent of this survey, which was a supplement to the continuing data collection system, was to understand the nature and causes of the injuries. Appendix A lists other Technical Reports from the Health Consequences of Deployment study.

METHODOLOGY

For a 5 day period in early Nov 1981, information was gathered from every combat arms soldier reporting for treatment of an injury at one of the three Battalion Aid Stations (BASs) providing outpatient care to approximately two thousand soldiers. For each visit to the BAS, an interviewer-administered questionaire recorded: How the injury occurred, how long ago it occurred, if the soldier had seen a medical care provider prior to this visit, and if the soldier had attempted to treat the injury himself. Whenever the medical record could be obtained, diagnosis and disposition were also recorded. Supplemental

information was collected at the hospital Emergency Room and only the name of the soldier and type of injury were available from those records.

During the week of the survey, the soldiers were involved in a typical spectrum of normal military duties which included training in garrison and in the field, use of the firing range, guard duties, formal field training exercises, and parachute operations (jumps). Their organized Physical Training (PT) for the week included company football, road marches, running, drills and exercises.

FINDINGS

There were a total of 144 injury visits during the 5 day survey, a typical work load. Ninety-nine injury visits were made to the BAS's where survey information was collected. These 99 visits were made by 94 different individuals. Five soldiers had 2 visits each to the BAS during this week; three soldiers were seen for two different injuries and two for the same injury. There were 41 visits that were the first visit for the problem and 58 that had been previously seen by some medical care provider for this problem prior to this visit. Of the 58 visits that had been seen previously, 42 had been seen by a medic in the BAS, in the field or on the drop zone. The remaining 16 were seen at the post hospital ER, 9 of these during the week of the survey. There were an additional 36

injury visits to the ER by individuals in the sample units who were not seen in the BAS and of these, 58% were specified as jump injuries. Although the other Technical Reports in this series include these ER visits, the remainder of this paper will only deal with the 99 visits for which survey results are available.

As shown in Table 1, approximately 37% of the injuries being seen as a first time visit occurred during organized PT, 29% occurred during military training and 27% occurred during off-duty time. There also were a small number (7%) which were reported either as a very old injury or as a case where the soldier was not sure how the injury occurred. Almost half of the injuries which occurred during military training were parachute jump related. Two-thirds of the organized PT injuries occurred during company football games.

More of the repeat visits were brought about by injuries which occurred during military training than first time visits. The fraction of these repeat visits which were due to parachute jumps increase from one half to three-fourths. The number of organized PT related injuries was less than a fifth of the repeat visits. Within this small number, however, almost three-fourths of the repeat visits came from company football games. The fraction of off-duty injuries among the repeat visits (1/5) was lower than the fraction for first time visits (1/4).

Over half of the injuries in this one week survey involved injuries to the lower extremities (60%). This was true for first time visits (56%) as well as with repeat visits (62%). This 60% is slightly higher than the 49% lower extremity injury visits during a full year (see Appendex A, Technical Report 3).

Over half of the injuries prompting the first time visits occurred during the previous twenty-four hours with a very small fraction occurring more than two weeks before. For the repeat visits half had occurred within the last week, but almost one-fourth had occurred more than forty-five days prior to the visit during the survey. In both first time visits and repeat visits, about two thirds had not tried to treat the injury themselves. Slightly less than one-fourth had experienced other problems or injuries involving the same part of the body prior to this injury (10% had experienced problems prior to their entry into the army and 15% after entry).

As shown in Table 2, the first time visits had about a third with a disposition of "return to duty", about a half with a profile and none with quarters. The repeat visitors had about a fifth "return to duty", slightly more than half profiles and a tenth quarters. When first time and repeat visits were combined, slightly less than one-fourth of all visits resulted in a disposition of "return to duty," more than half were given profiles and a small fraction were given quarters. There also were some records that had no disposition or required further

examination or x-rays before the diagnosis and disposition could be given. The majority of the profiles were for no PT or limited duty. All of the profiles given to first time visit injuries were for less than 7 days. Only slightly more than half of the profiles given for repeat visit injuries were for less than 7 days and 2 were for 30 days, 1 was for 60 days and one was a permanent profile. Medication, primarily aspirin or Motrin (an anti-inflamatory), was given in almost one-fourth of the cases.

The fraction of profiles or quarters are categorized by the way that the injury occurred, in Table 3. Injury visits that originated during the performance of military training resulted in two thirds of both the profiles and quarters (66%), with parachute jumps once again being the most frequent single cause. Over half of the injuries which originated during oranized PT resulted in a profile, and although other PT (marches, running, drills, and exercises) had fewer overall visits than company football, they resulted in slightly more profiles (67% vs 53% respectively.)

DISCUSSION

Military training resulted in the highest number of injuries, and organized PT and off-duty injury visits followed in that order. There was also a small percentage which occurred in unknown circumstances or were chronic problems. As a single

category, airborne jumps accounted for the largest percent of all injury visits. This finding is supported by independent data from the ER which indicated that during the week of this survey more than half of the visits from these units were jump injuries.

Injuries occurring during company football were the second highest single category of injury and accounted for a fifth of all visits. Unit commanders have indicated that they view company football as a cohesion building PT activity which the troops also enjoy. Injuries originating during company football accounted for more visits than other forms of PT. Since the amount of time devoted to different activities is not the same, it is not possible to determine the precise hazards without an 'injury per man hour at risk per activity' calculation.

Still, from the data currently available the commander should be aware that company football results in increased sick call visits and he may want to consider that impact on any particular days' or weeks' mission.

There are several factors which contribute to the high number of repeat visits for injuries in general and specifically to the one fourth of injuries which occurred more than 45 days prior to the surveyed visit. The large fraction of repeat

visits may be an indication of the seriousness of some of these injuries and may reflect the difficulty in allowing sufficient healing time for muscular/skeletal injuries. Particularly the majority of these injuries are to the lower extremities and the injured individual's normal work day demands frequent marching, running and movement across rough terrain by foot. There were a tenth whose problem extended back prior to entry into the service. And a similar fraction had a previous injury to that site since entry into service. These prior injuries contribute to the high number of profiles. As a non-medical contributing factor to the high repeat visit fraction, one should also consider that the treatment facilities, especially the BASs are very readily available to these soldiers at no cost. A parallel medical factor which may contribute to a high repeat visit fraction is the conscientious follow-up allowed by the lower health care provider to patient ratio found in these BASs. Evidence that these factors make professional treatment of minor injuries more appealing is suggested by the observation that approximately two-thirds of the soldiers did not make any effort to treat the injury themselves.

ACKNOWLEDGEMENT

The continuing efforts of Mr. Oldakowski as the project computer specialist are greatly appreciated. We also thank SP5 Harrington, SP4 Hodge, SP4 Kamoni and SP5 Rigney who have been responsible for the coding of the medical data througout this study and SP5 Helm for his assistance with generating these reports.

TABLE 1: INJURY VISITS BY DUTY STATUS, SPECIAL SURVEY.

Duty Status	1st Visits		Repeat Visits		Total Visits	
	N	(%)	N	(%)	N	(%)
MILITARY TRAINING	12	(29)	26	(45)	38	(38)
Jumps	5	(12)	19	(33)	24	(24)
Other	7	(17)	7	(12)	14	(14)
ORGANIZED PT	15	(37)	11	(19)	26	(26)
Football	9	(22)	8	(14)	17	(17)
Other	6	(14)	3	(5)	9	(9)
OFF DUTY	11	(27)	11	(19)	22	(22)
Accidents	8	(20)	7	(12)	15	(15)
Sports	3	(7)	4	(7)	7	(7)
UNKNOWN OR CHRONIC	3	(7)	10	(17)	13	(13)
TOTAL	41	(100)	58	(100)	99	(99)

TABLE 2: INJURY VISITS, NATURE OF DISPOSITION, SPECIAL SURVEY.

Type of Disposition	1st Visit N (%)	Repeat Visit N (%)	Total N (%)
Primary Disposition			
Return to Duty	13 (32)	10 (17)	23 (23)
Profile	21 (51)	34 (59)	56 (56)
Quarters	0 (0)	6 (10)	6 (6)
Further exam, none given, other	7 (17)	8 (14)	15 (15)
Total	41(100)	58(100)	99(100)
Secondary Disposition			
Follow up	2 (5)	6 (10)	8 (8)
Medication	10 (24)	12 (21)	22 (22)
Profile following			
Quarters	0 (0)	3 (5)	3 (3)
None	29 (71)	37 (64)	66 (67)
Total	41(100)	58(100)	99(100)

TABLE 3: INJURY VISITS, PERCENTAGE RESULTING IN PROFILES AND RESULTING IN QUARTERS BY ACTIVITY, BY SPECIAL SURVEY.

Duty Status	1st Visit	Repeat Visit	Total Visits
	Profile/Quarters	Profile/Quarters	Profile/Quarters
MILITARY TRAINING	58/0	65/67	63/67
Jumps	60/0	79/50	75/50
Other	57/0	29/17	43/17
ORGANIZED PT	64/0	64/ 7	58/17
Football	44/0	62/ 0	53/ 0
Other	67/0	67/17	67/17
OFF DUTY	64/0	64/17	50/17
Accidents	44/0	43/17	40/17
Sports	33/0	100/ 0	71/ 0
UNKNOWN OR CHRONIC	67/0	30/ 0	38/ 0

APPENDIX A: AREAS OF FUTURE REPORTS

The following are working titles of technical reports for which data is currently being analyzed:

T1: The Health Consequences of Deployment. Part I: Data Gathering. Department of Military Psychiatry, WRAIR, WASHINGTON DC. 20012. 1982.

T2: Types and Rates of Outpatient Sickcall Visits of Active Duty and Their Family Members. Department of Military Psychiatry, WRAIR, WASHINGTON DC. 20012. 1982.

T3: Comparison of Outpatient Sickcall Visits for a Sample of Combat Arms and Support Soldiers. Department of Military Psychiatry, WRAIR, WASHINGTON DC. 20012. 1982.

T4: Additional Survey of Injuries of Combat Soldiers.

T5: Impact of Activity and Transitional States on Combat Arms Soldiers Outpatient Sickcall Rates. Department of Psychiatry, WRAIR, WASHINGTON DC. 20012. 1983.

T6: Variation in Outpatient Sickcall Visits Among Matched Combat Arms Battalions.

T7: Demography, Unit Personnel Turnover and Outpatient Visits.

T8: Identification of Repeated Users of Health Care Resources

T9: Characterization of Active Duty and Family Members Who Make Mental Health Visits.